

# ARE YOU READY...

Integrated aircraft operations:  
planning, communication and  
tracking

By: Giovanni Esposito – Emmanuel Flamant – Daniel Froehly





# Integrated Operation with SITA

Introduction of Sita OnAir

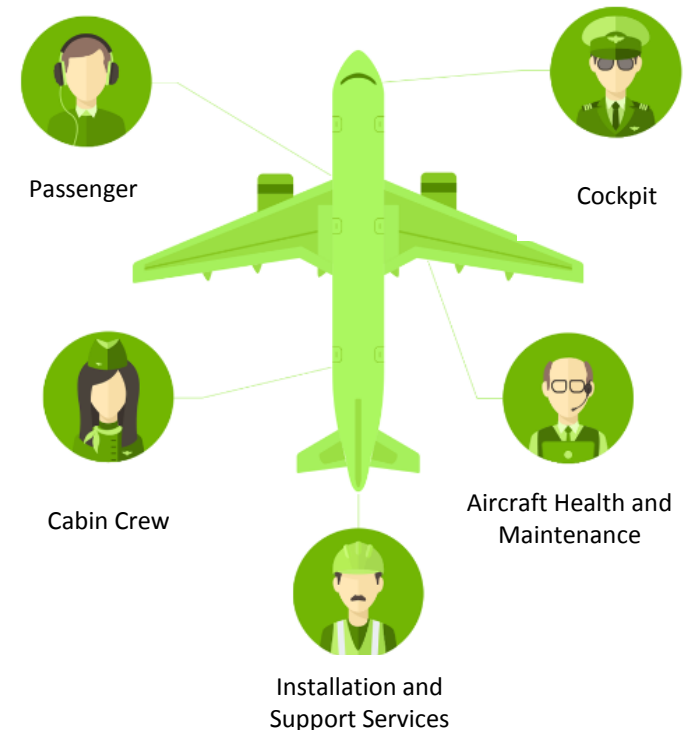
# Complete portfolio to address the connected aircraft market

- Nose-to-Tail product range covering all aircraft segments

- Passenger
- Cabin Crew
- Cockpit
- Aircraft Health and Monitoring
- Installation and support services
- Air Traffic Navigation

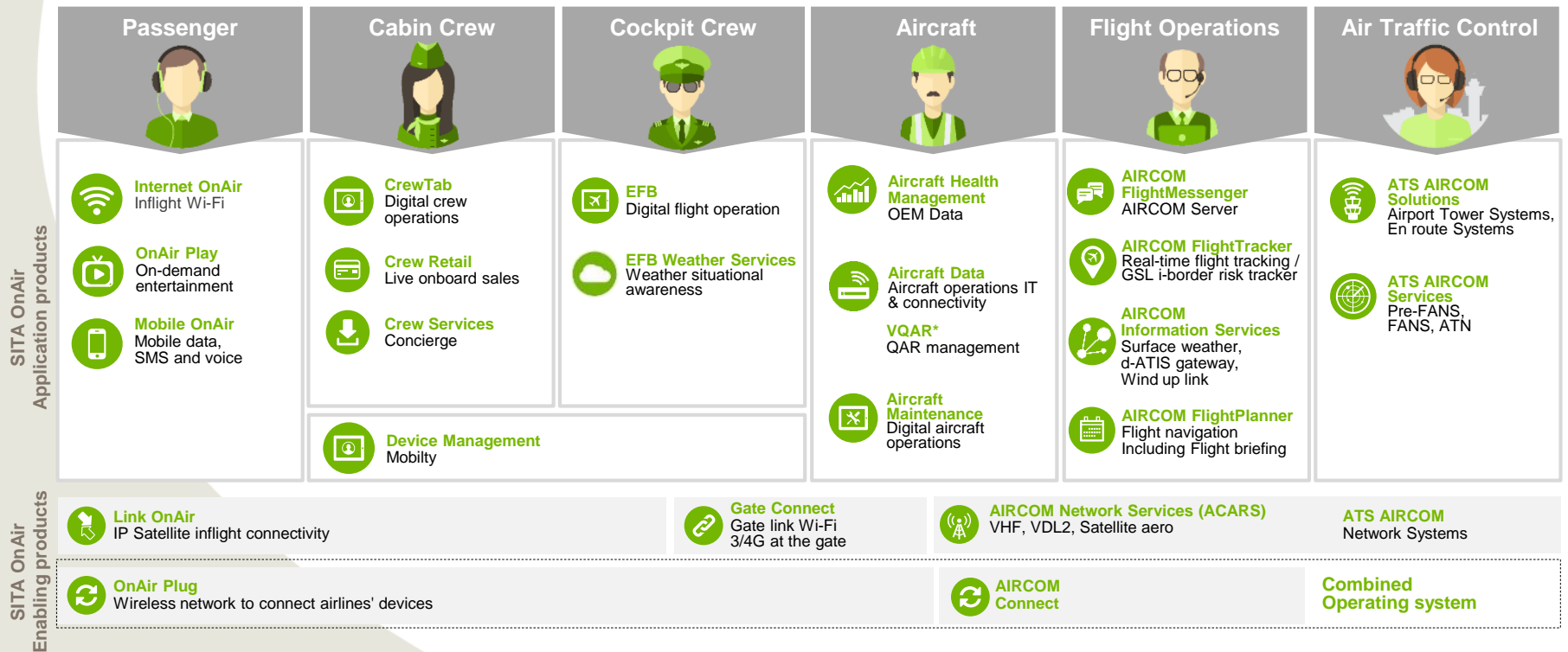
- Enable by a unique Aircraft Communications & Information Services infrastructure

- Satellite and AIRCOM connectivity
- SITA OnAir ground infrastructure
- Interlocks with SITA capabilities



# SITA OnAir comprehensive service portfolio

## e-Aircraft Nose-to-Tail Solutions



SITA OnAir enablers  
Aircraft Communications & Information Services

# SITA/ONAIR E-AIRCRAFT

## NOSE TO TAIL SOLUTIONS



### **Nose to tail solutions**

Unique OnAir/SITA combination of connectivity, IT, applications and Services

### **Modular portfolio of solutions**

compliance, best practices, integration

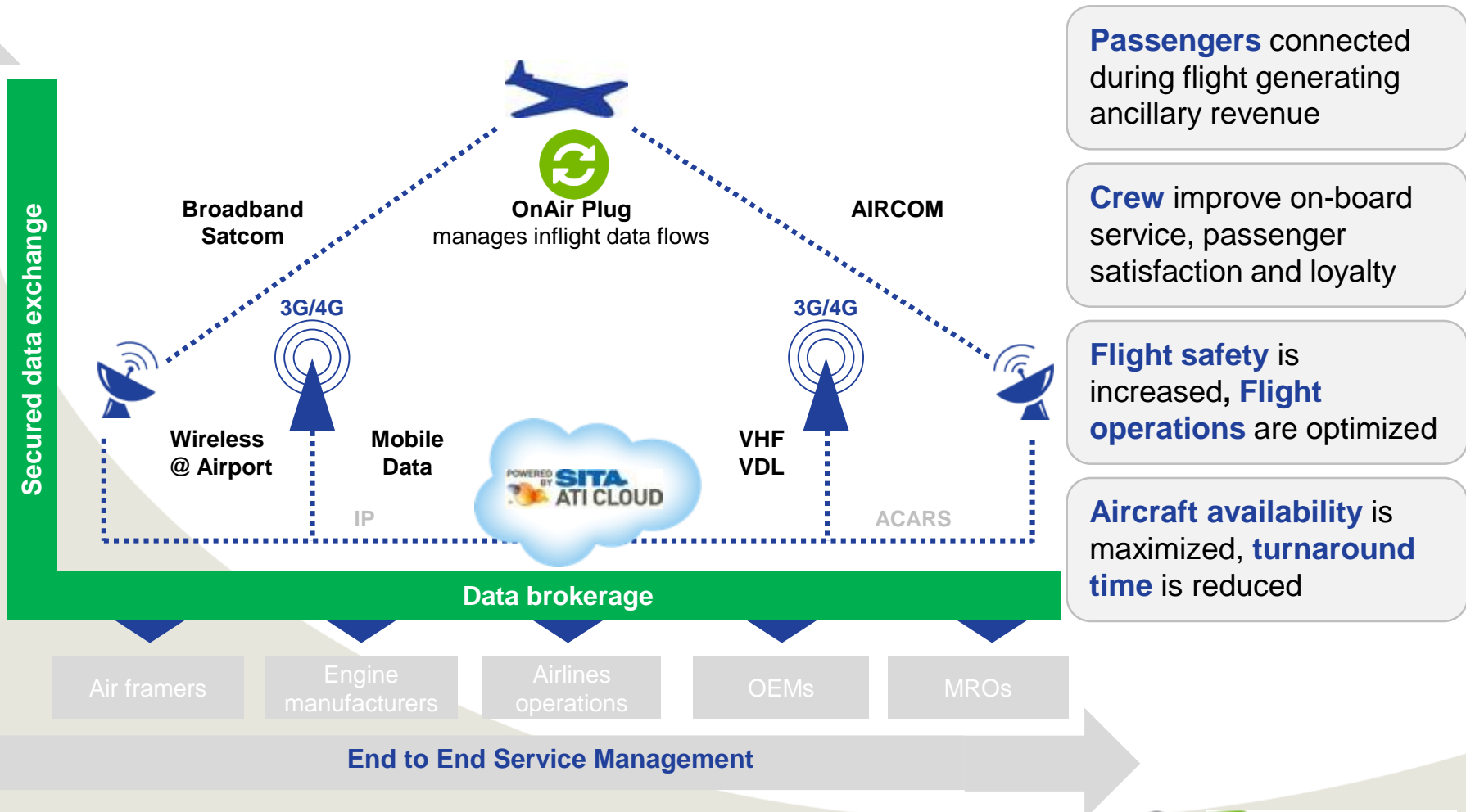
### **Secured aircraft data exchanges**

Setting the standard for industry security

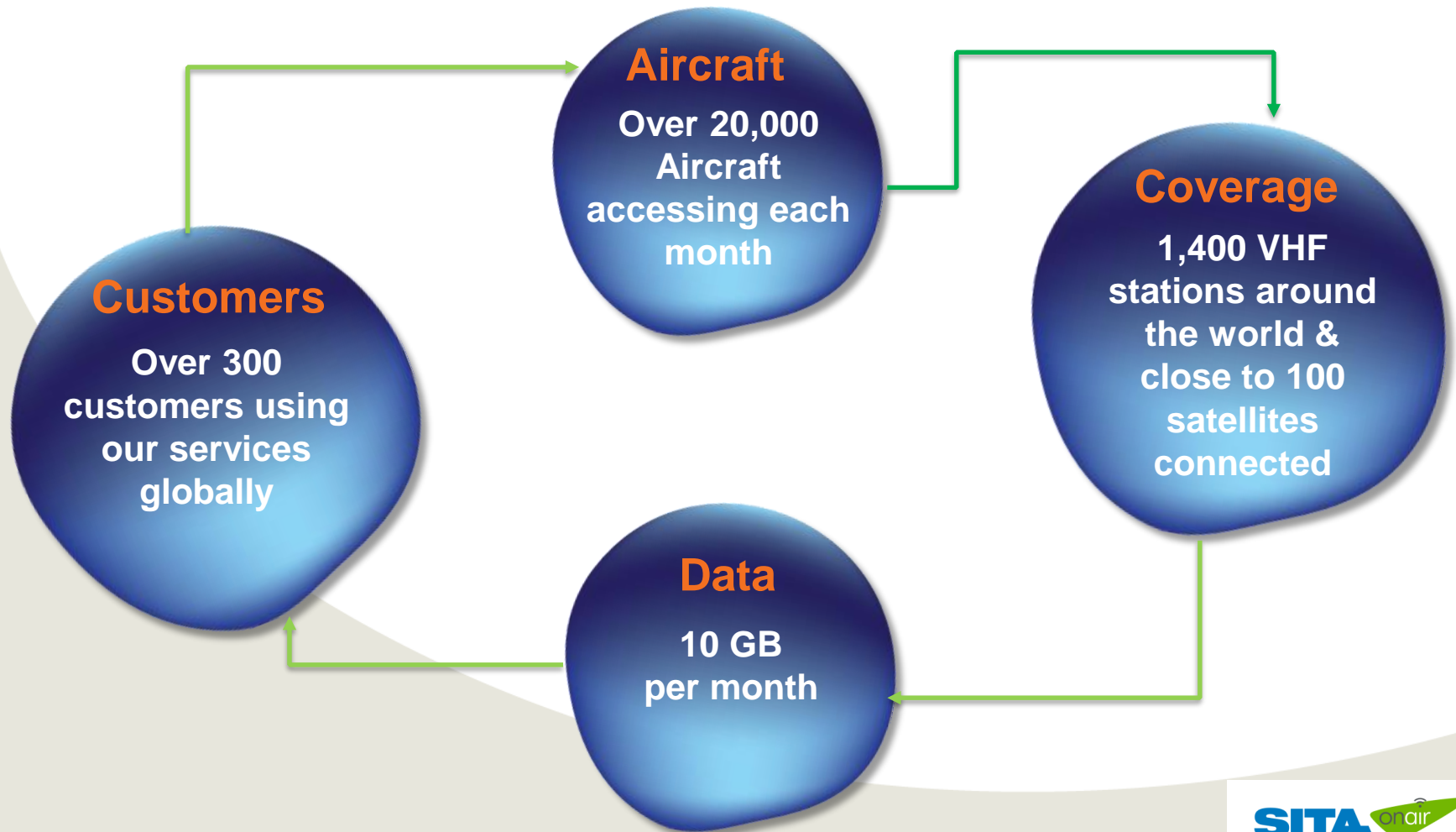
### **Neutral, agnostic**

Dedicated to ATI technology transformation, serving the community

# NOSE TO TAIL SOLUTIONS SUPPORTED BY COMMON CAPABILITIES



# In the 30 years since we started building the AIRCOM network



# Customer perspective



- British Airways would not be able to operate the schedule it has today with the staff levels it has without ACARS.
- Benefits include:
  - Reduced Engine lease costs due to real-time engine health messages to owners (Rolls-Royce, GE, etc.).
  - Reduced maintenance costs due to aircraft defect messages.
  - Reduced staff costs due to replacement of manual documents with ACARS direct to crew.
  - Real-time aircraft condition monitoring reducing unplanned events costs due to expert analysis of data sent via ACARS.
  - Real-time aircraft position monitoring capabilities.
  - Fuel savings with automated Wind data uplinks to FMC.
  - Reduced fuel costs by engine trend analysis reducing need for engine runs to check engine tuning actions.

Colin Gallant  
BA IT Business Services



# Customer driven consumption

**Air Ground  
datacomms**  
**Stand-alone  
Redundant  
Disaster recovery**

**Flight Planning**

**Preplan analysis  
FlightFollow  
Post Analysis**

POWERED  
BY **SITA**  
**ATI CLOUD**

**Flight Tracking**

**Proactive  
ATC integrated  
Situational  
awareness**

**EFB**

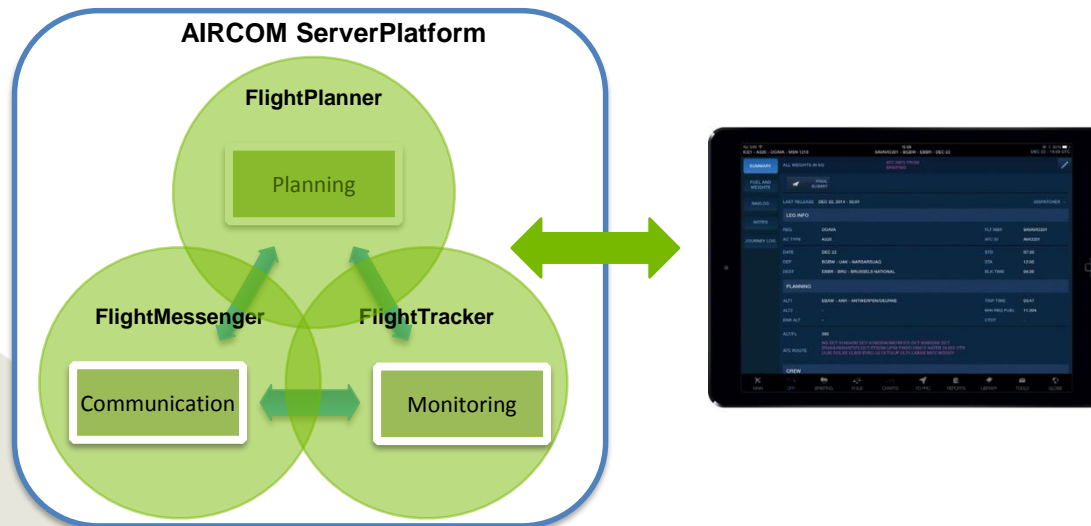
**Process Driven  
Phased deployment  
Fully Managed**

**Flight Monitoring**

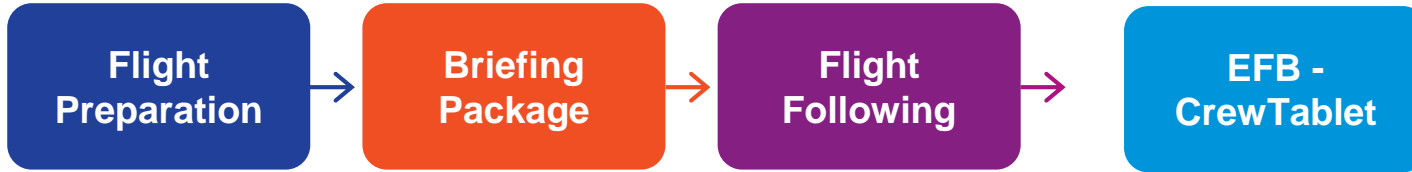
**Stand-alone  
Redundant  
Disaster recovery**

# Integrated Dispatch Toolset

- SITA OnAir's AIRCOM Applications suite address the core functions of the Dispatch Process
- End-to-end and gate-to-gate integration with the aircraft via electronic pilot briefing



# OUR APPROACH TO REALIZING YOUR BUSINESS STRATEGY



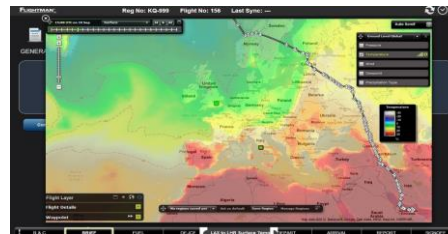
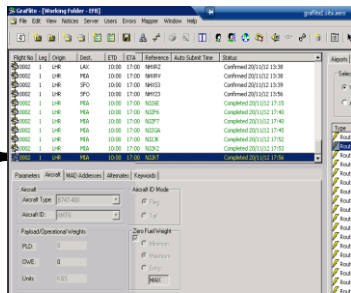
Check Weather info's, NOTAMs, Airport info's, Flight Planning

Develop a revised and improved documentations containing last minute changes

Analyze the Flight List, overlay current Weather and Flight Hazards to optimize the flight, Monitor the Aircrafts all time

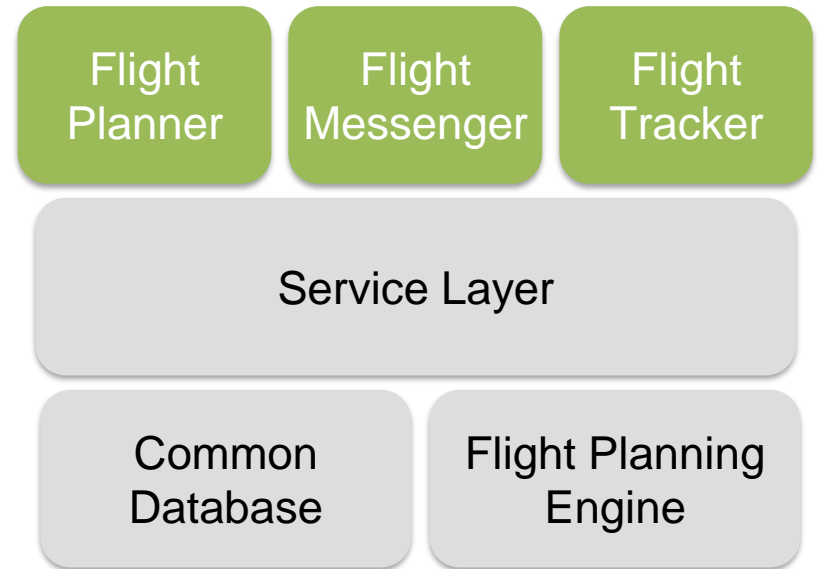
Harmonizing the Airline Operations through full Operational Software/databases Interface with live-updates from start to end of the flight

- Flight Briefing related products
- Operations Control
- Crew System
- Departure Control System
- MRO
- Fuel Conservation Module (FCM)
- Other airline back-office servers

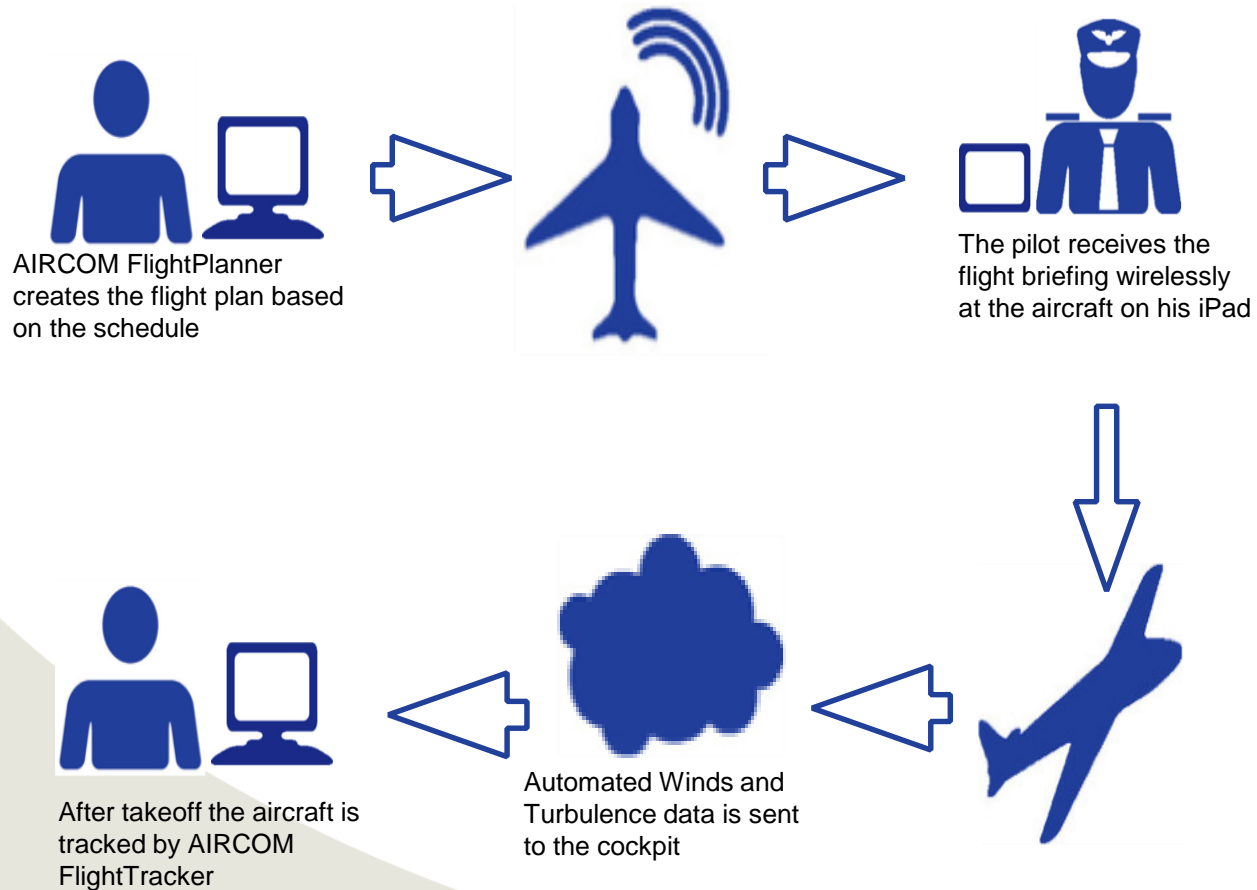


# AIRCOM ServerPlatform

- AIRCOM ServerPlatform is the Service Oriented platform on which the AIRCOM applications are built
- A common Database gives cross-functional consistency: “a single version of the truth”
- A common look and feel reduces training requirements



# Integrated Dispatch Process





# AIRCOM FlightPlanner

Integrated Operations with SITA

# Create plan, check status

The screenshot displays a flight planning application interface. At the top, there is a toolbar with icons for Flight Plans, Host Data, Keywords, SWX/NOTAM, and Close. Below this is another toolbar with icons for Refresh, Filter, Preferences, Cool View, New, Duplicate, Modify, Delete, Save, Cancel, Submit, and Close.

The main area shows a list of flight plans. The selected flight plan is highlighted in blue:

Flight Number	Leg	Aircraft Type	Aircraft	Departure	Arrival	ETD	ETA	Flight Plan	Submitted	Auto Submission	CFP	SWX
456	0	A340-313E/CFM	4001	FAOR	EGLL	15:46	16:46	XUSMT	Nov-27 2014 15:48:32			
456	0	A340-313E/CFM	4001	FAOR	EGLL	15:46	16:46	XVSVB	Nov-28 2014 14:01:21	Not Active		
123	0	A330-243/TRENT	5182	FAOR	EGKK	13:42	14:42			Not Active		
<b>456</b>	<b>0</b>	<b>A340-313E/CFM</b>	<b>4001</b>	<b>FAOR</b>	<b>EGLL</b>	<b>15:46</b>	<b>16:46</b>	<b>XV779</b>	<b>Nov-28 2014 15:23:22</b>	<b>Not Active</b>		
OFF	789	A330-243/TRENT	5183	VCBI	OMDB	15:46	16:46	XWDZC	Dec-01 2014 16:50:42	Not Active		
789	0	A330-243/TRENT	5183	VCBI	OMDB	15:46	16:46			Not Active		
186	0	A340-313E/CFM	4001	VCBI	OMDB	16:53	17:53					
789	0	A330-243/TRENT	5183	VCBI	OMDB	15:46	16:46	X0055	Dec-04 2014 13:30:07	Not Active		

Below the list, there are tabs for General, Aircraft, Keywords, Addresses, Input Message, Flight Plan, Surface Weather, NOTAM, Distribution, and Log. The Flight Plan tab is active.

The Flight Summary section shows the following details for the selected flight plan:

- Flight Number: 456
- Leg: 0
- Departure: FAOR
- Arrival: EGLL
- STD: 15:22
- ETD: 15:46
- STA: 15:22
- ETA: 16:46
- Route ID: [Empty]
- Route Selection: [Empty]
- DOF: [Empty]
- Season: [Empty]
- Version: [Empty]

The Alternates section shows the following details:

- ALT: [Empty]
- Distance (Nm): [Empty]
- Summary & Routing: [Empty]
- ALT1: EGKK
- ALT2: [Empty]
- ALT3: [Empty]
- TAL: [Empty]

The Notes section is empty.

The Automatic Submission section shows the following details:

- Scheduled Automatic Submission
- @ ETD Date: 2014-12-10
- Submit: [Empty] Hrs [Empty] Mins before ETD
- Submit at: 2014-12-10 16:45 UTC
- Hold Automatic Submission
- Automatic Submission: Status: Not Active

# Apply business rules

Flight Planner - [Keywords]

Flight Plans Host Data Keywords SWX/NOTAM Close

Refresh New Modify Delete Save Cancel Close

Keywords Reference Conditional Keywords

Valid From	Valid Till	Aircraft Type	Short Reg	SITA Tail No.	Flight Number	DEP	ARR	ALT1	Misc. Airport	Route ID	ETD From	ETD To
Nov-28 2014 00:00						VCBI						
Dec-09 2014 00:00						FIMP	FAOR					
Dec-09 2014 00:00						EGLL	FAOR					

Validity

Activate  Deactivate

Valid From: 2014-12-09 Until: [ ]

Until further notice

Criteria

Flight Number: [ ]

Departure: FIMP Alternate Airport: [ ]

Arrival: FAOR Misc. Airport: [ ]

ETD Range: [ ] - [ ]

Aircraft Type: [ ]

Short Reg: [ ] SITA Tail No.: [ ]

Route ID: [ ]

DOF: [ ]

Keywords

NTN-  
SWX-  
DHT-1,  
OSP-,WXS-2/99,THX-JNL,RVT-050  
SWX-PT,

Notes

Please run ASA request. Note stand location subject to change.  
Fuel provider : BP contact 121.9

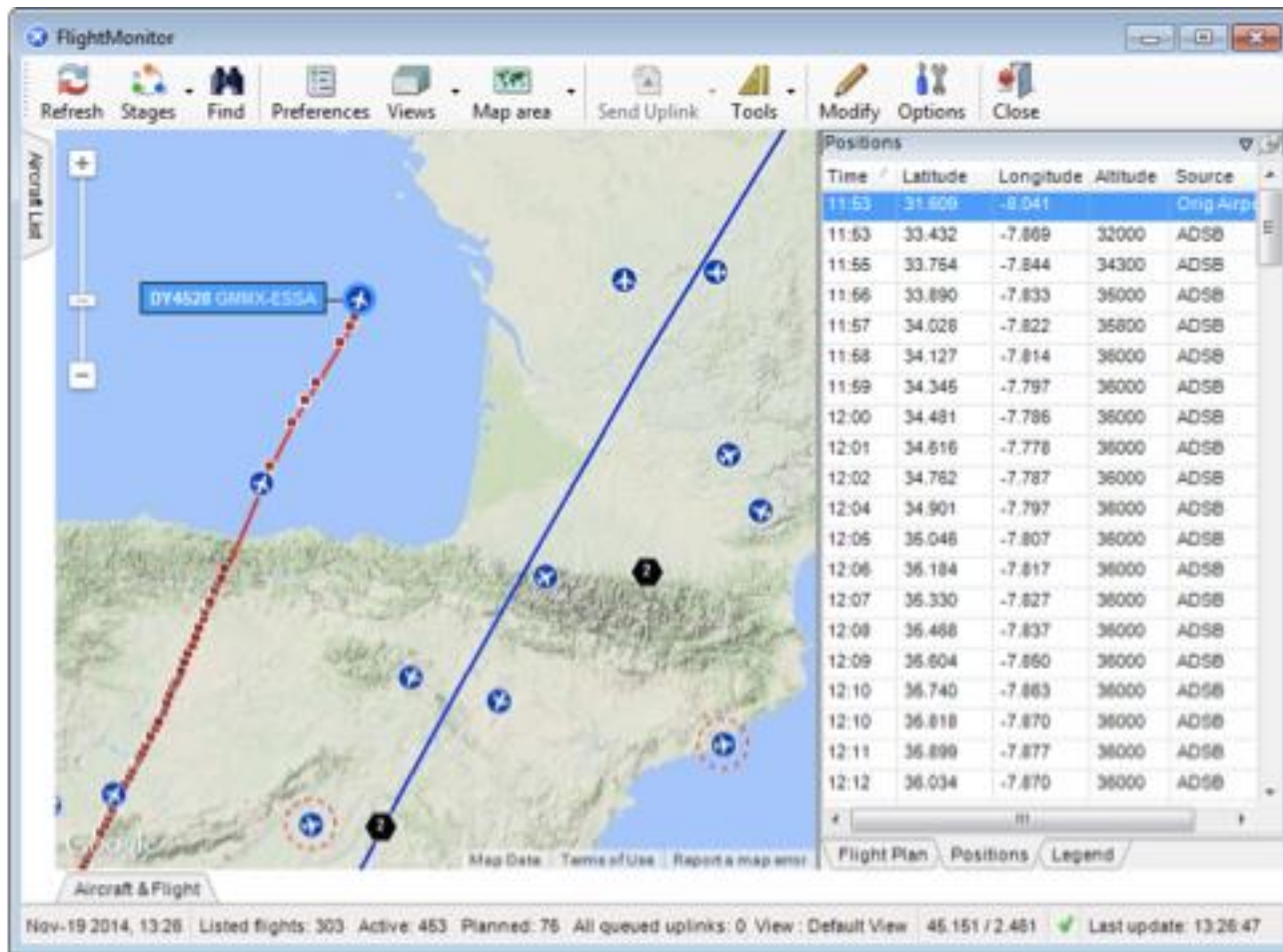




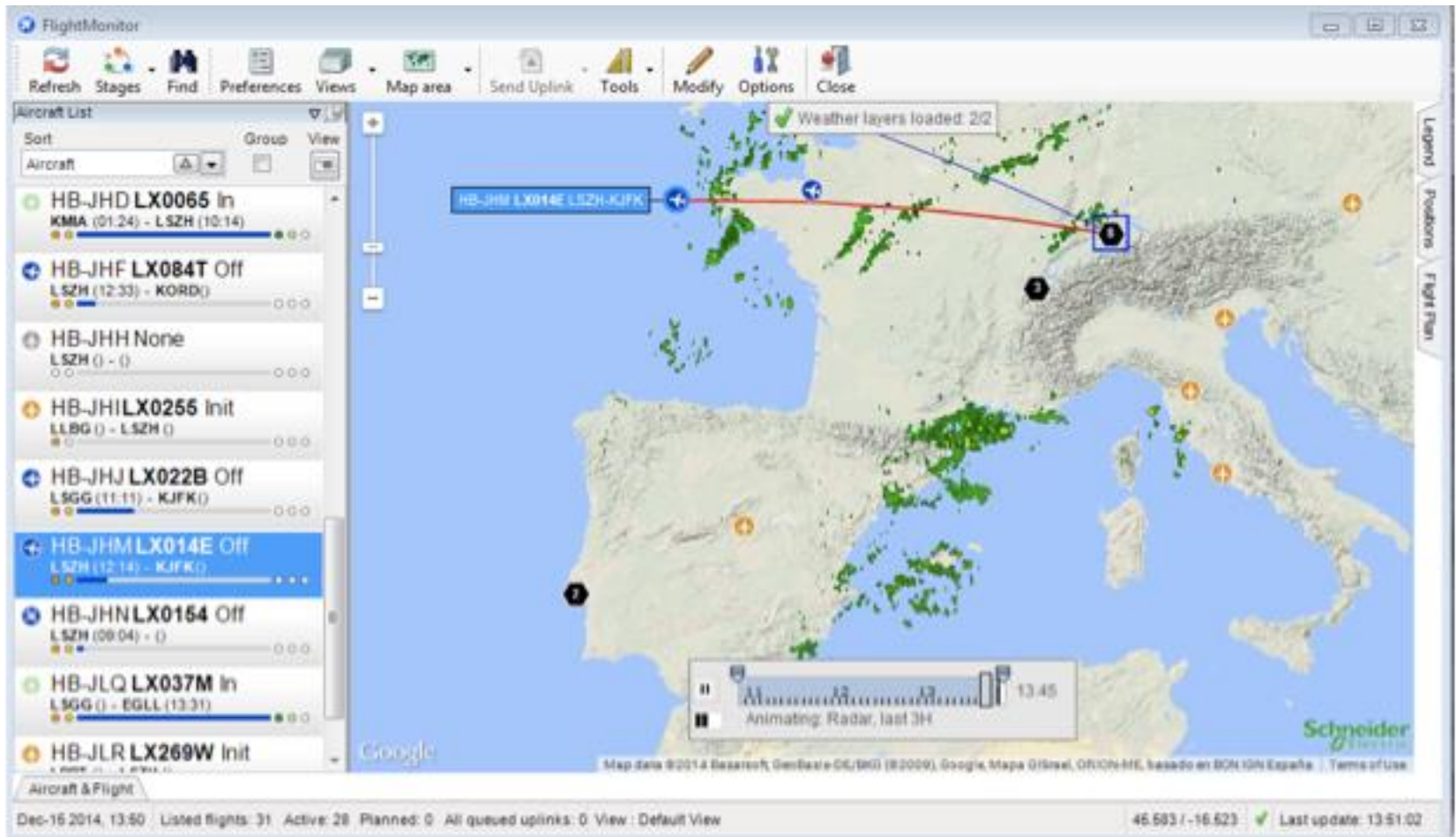
# AIRCOM FlightTracker

Integrated Operations with SITA

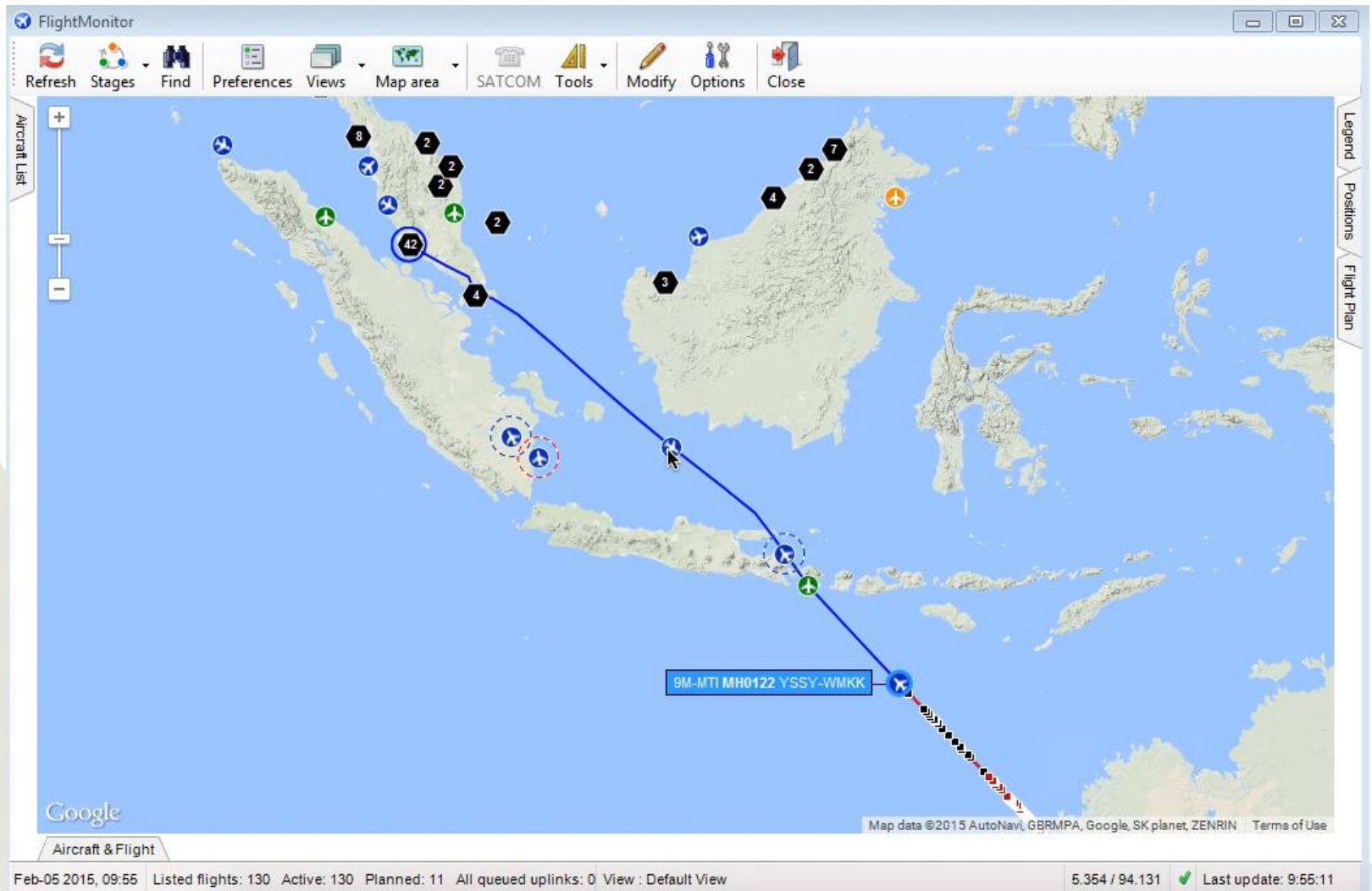
# Tracking aircraft using multiple sources



# Check current weather conditions



# Turbulence Forecast



Turbulence – check at an alternative altitude

# Demo

- FlightTracker

Please join us on our Stand for a live Demo

# Send to Pilot

The screenshot displays a flight management application interface. At the top, there are navigation tabs: Flight Plans, Host Data, Keywords, SWX/NOTAM, and Close. Below these are various action icons like Refresh, Filter, Preferences, Cost View, New, Duplicate, Modify, Delete, Save, Cancel, Submit, and Close.

The main area shows a table of flight plans with columns: Flight Number, Leg, Aircraft Type, Aircraft, Departure, Arrival, ETD, ETA, Flight Plan, Submitted, Auto Submission, CFP, and SWX. One flight plan is highlighted in blue:

Flight Number	Leg	Aircraft Type	Aircraft	Departure	Arrival	ETD	ETA	Flight Plan	Submitted	Auto Submission	CFP	SWX
456	0	A340-313E/CFM	4001	FAOR	EGLL	15:46	16:46	XJ/SMT	Nov-27-2014 15:48:32			
456	0	A340-313E/CFM	4001	FAOR	EGLL	15:46	16:46	XVEVB	Nov-28-2014 14:01:21	Not Active		
123	0	A330-243/TRENT	5182	FAOR	EGKK	13:42	14:42			Not Active		
Draft 456	0	A340-313E/CFM	4001	FAOR	EGLL	15:46	16:46	XV7TB	Nov-28-2014 15:23:22	Not Active		
OFF 789	0	A330-243/TRENT	5183	VCBI	OMDB	15:46	16:46	XWD2C	Dec-01-2014 16:50:42	Not Active		
789	0	A330-243/TRENT	5183	VCBI	OMDB	15:46	16:46			Not Active		
186	0	A340-313E/CFM	4001	VCBI	OMDB	16:53	17:53					
789	0	A330-243/TRENT	5183	VCBI	OMDB	15:46	16:46	XXXSS	Dec-04-2014 13:30:07	Not Active		

Below the table, there are tabs for General, Aircraft, Keywords, Addresses, Input Message, Flight Plan, Surface Weather, NOTAM, Distribution, and Log. The 'Flight Plan' tab is active, showing options like 'Resend Flight Plan' and 'Uplink: EFB'. An 'Export' button is visible, and the 'Export to EFB' checkbox is checked. The 'Last Export' date is 'Oct-12-2014, 03:48 UTC'. The status is 'Exported', and the exported items are 'Flight Plan' and 'NOTAM'.

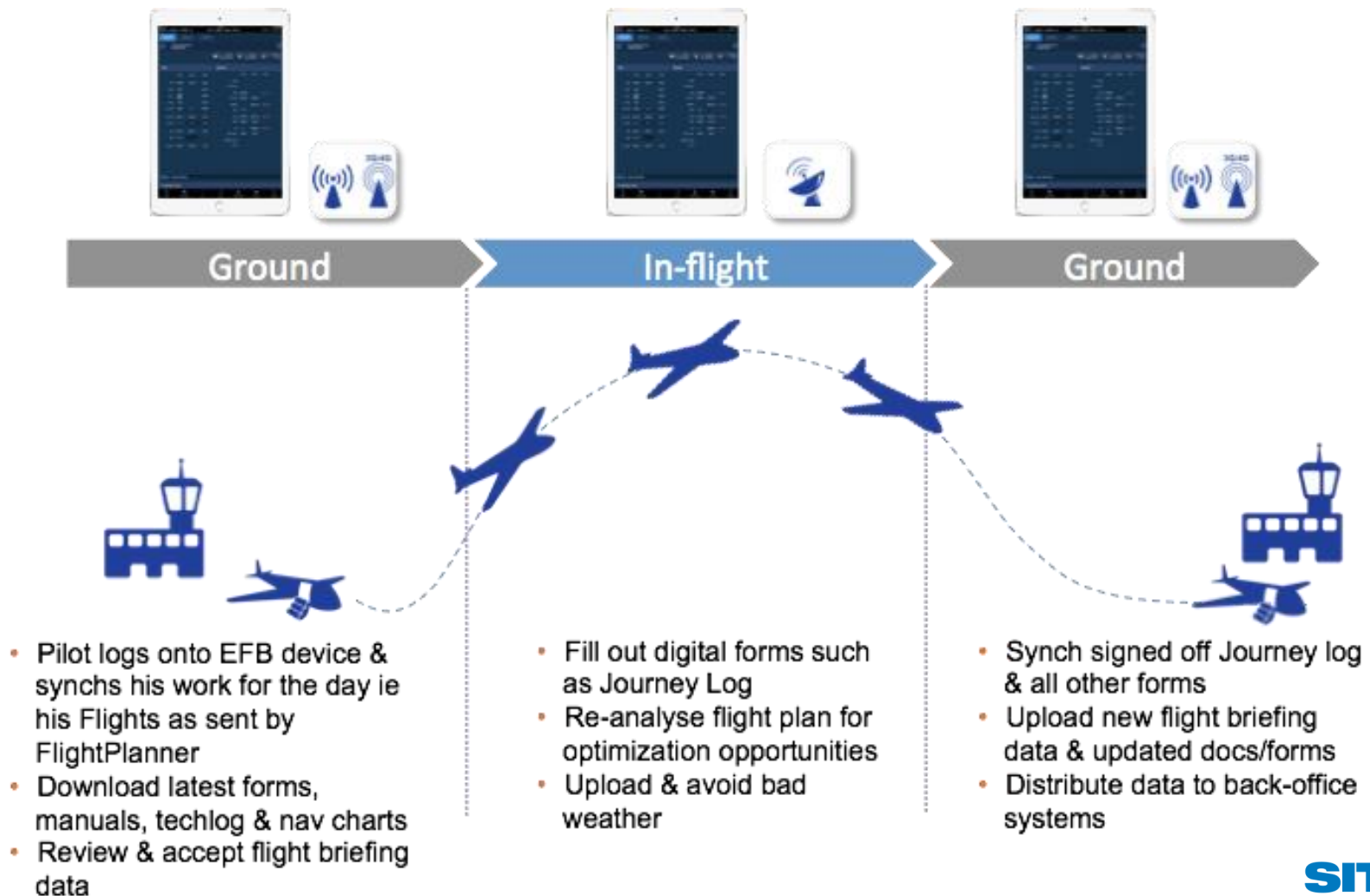
At the bottom, there are two panels for 'Associated Surface Weather' and 'Associated NOTAM', each with a table structure for reporting types, locations, and parts.



# AIRCOM EFB

Integrated Operations with SITA

# EFB Briefing Process





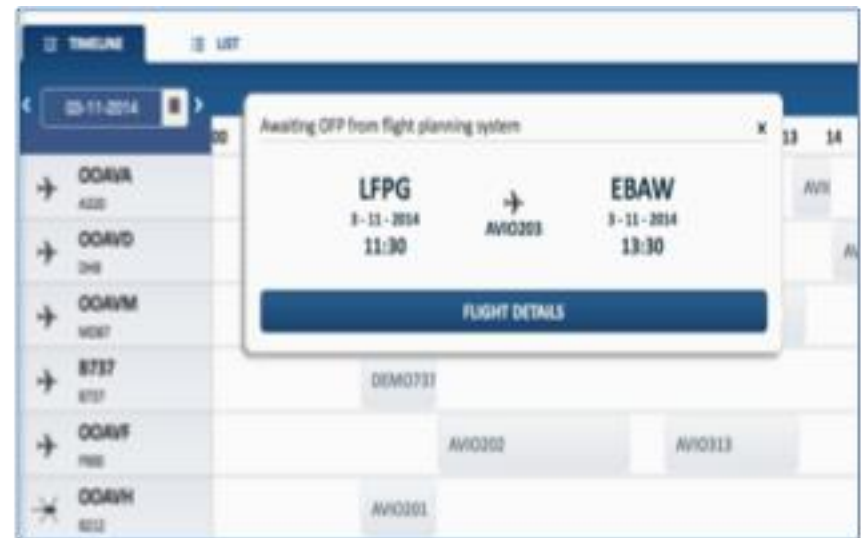
# Pilot Process - In Flight

- Operates flight by filling figures per waypoint as he flies through them
- Uses any operational info provided in the Briefing such as Weather Charts, NOTAMs
- Accesses navigation charts & any required documentation

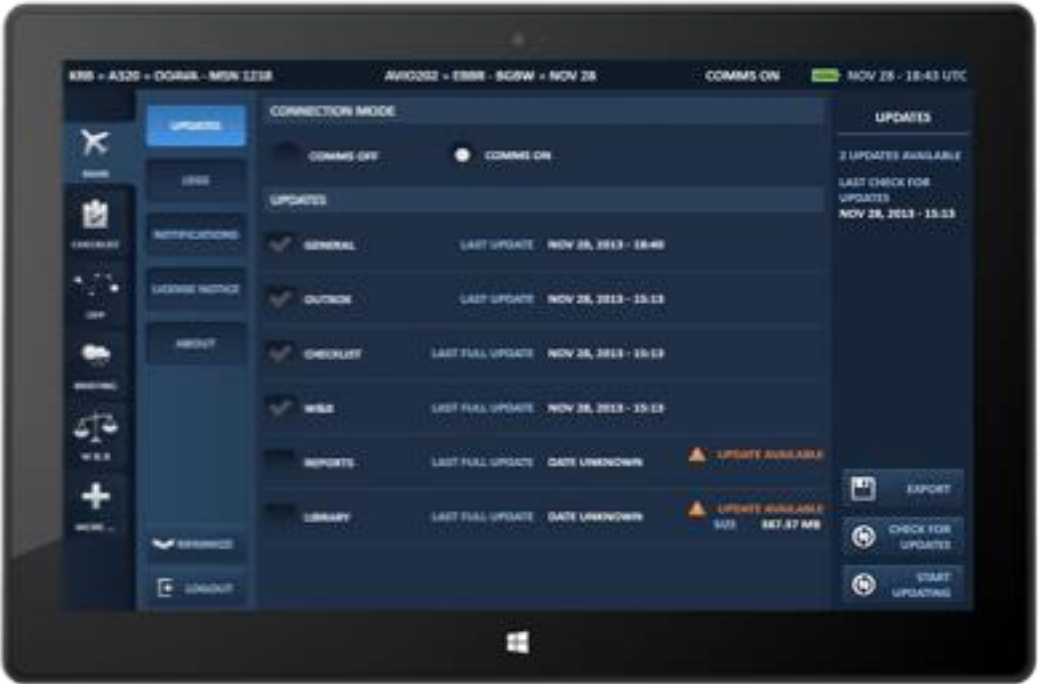


# Pilot Process - Post Flight

- Pilot completes journey log & any other relevant electronic forms & then synchs data over 3G or wifi. Pilot will also receive any new data for next flight.
- 2. During the synch process the data captured by the EFB is pushed to the back office systems via ground system called Bookbase then immediately visible to the people/systems that need it.



# Windows and iOS Supported

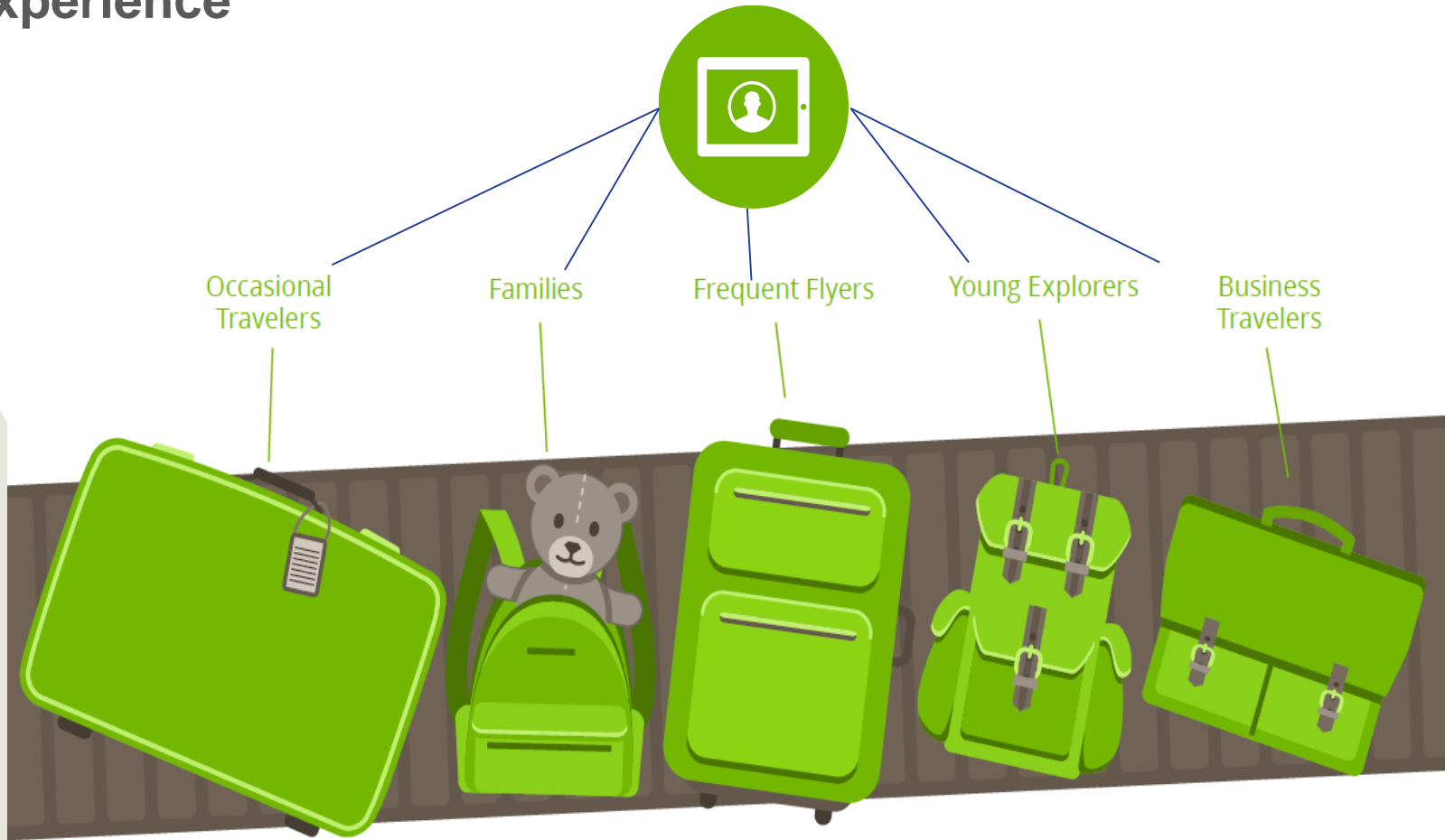


# SITA CrewTab



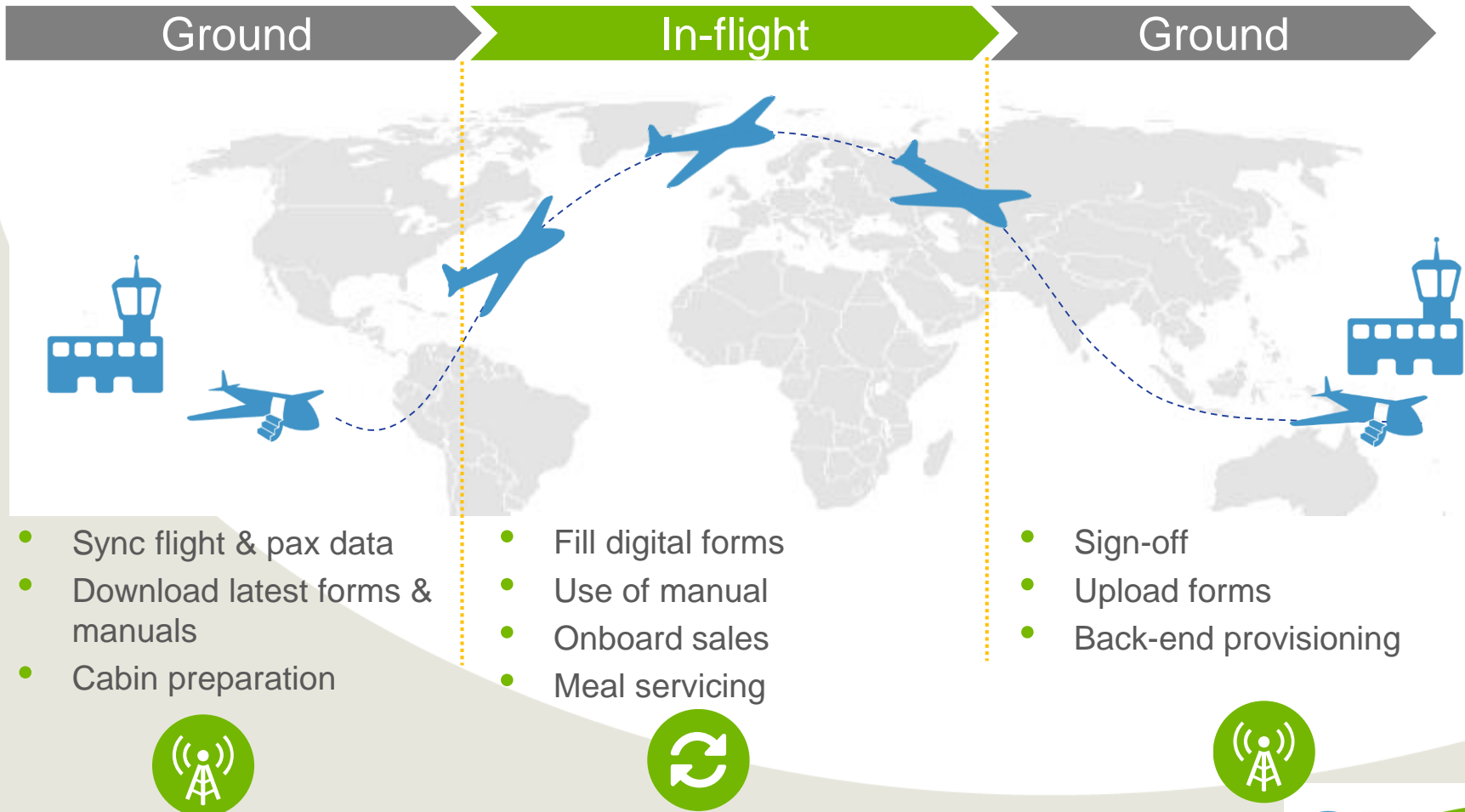
# Let's get personal!

On a connected CrewTab, crew can NOW provide a personalized experience



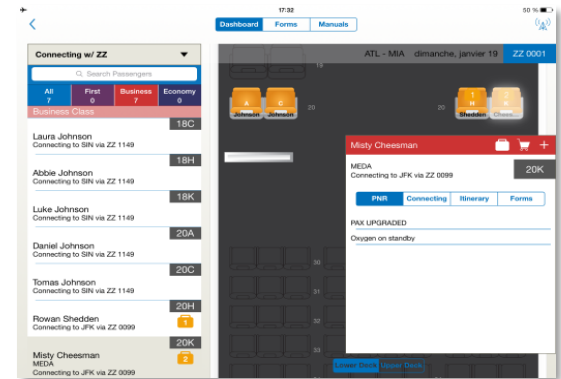
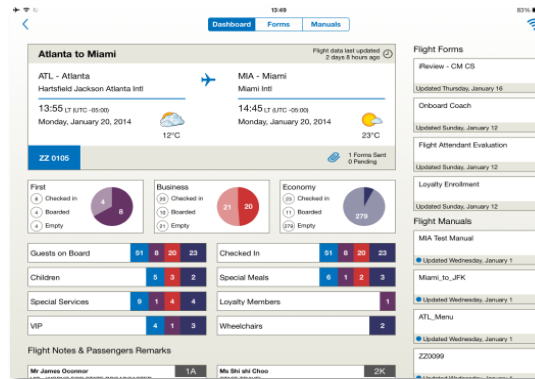
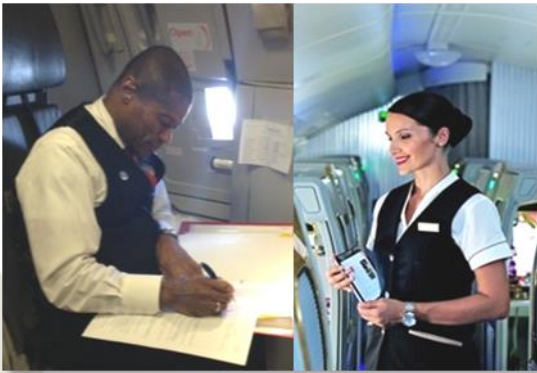
# Ubiquitous connectivity to serve cabin crew processes

## Day in the life of cabin crew



# Connecting the cabin

## Improving cabin crew efficiency while enhancing passenger services onboard



75% of airlines have a digitalization program

Access real time passenger and flight data

Personalized passenger data for a tailored experience

Bag track



Retail



Defects



Live Sces



Inventory



Analytics



M-Learning



Core



Consulting



Admin portal



Crew



Pax



# CrewTab enables onboard retail sales

## Integration with airlines systems

- Catering, Duty free
- Payment Service Provider

## Supply certified mobile Point Of Sales

## Tablet-based catalogue display & provisioning

## Easy capture of payment context

- Which Crew is selling
- Which passenger is buying
- Which context (route, items...)

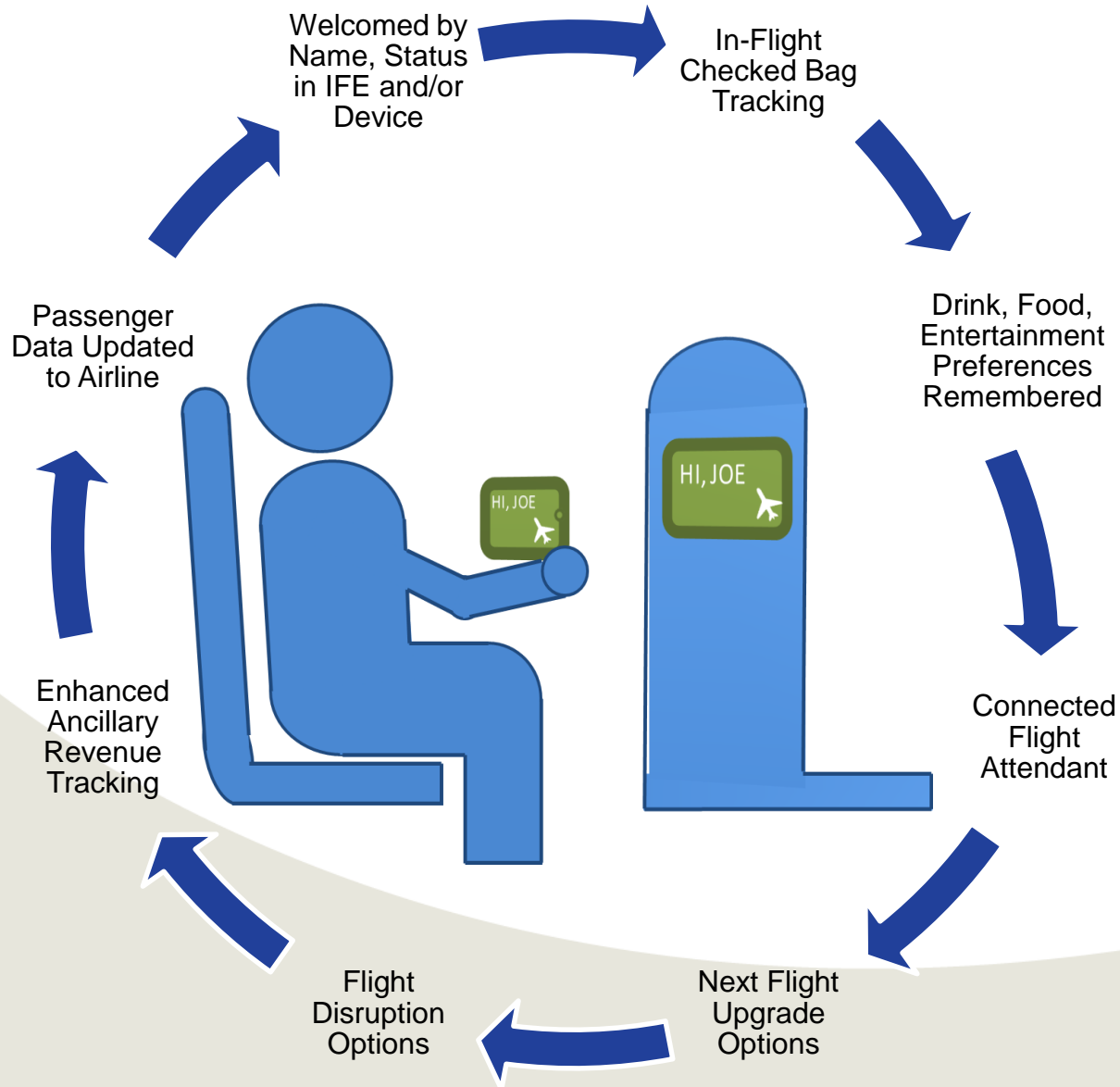
## Provide analytics

- Sales statistic
- Challenge 3rd party data
- Know better passenger behaviours





# Advancing PaxEx and Airline Revenue



# Passenger solutions



Internet OnAir



Mobile OnAir



OnAir Play



- Check social media, email and surf the web
- Watch movies, listen to music and receive news updates
- Talk, text and tweet with inflight mobile services

# Internet OnAir



# Internet OnAir: Surf and soar, sky high



## What is it

- Internet OnAir delivers a Wi-Fi hotspot in the cabin.
- Passengers can connect and access the internet from 30,000 feet

## Key Benefits:

- Offers Wi-Fi access in the cabin
- Infotainment environment
- Entertainment option for passengers
- Media space for the airline

## Features:

- Captive portal based on user's profiling
- Flexible Payment methods
- Freemium Wi-Fi sessions
- Ad display feature

## MOST POPULAR activities online



★★★★★  
Social networks



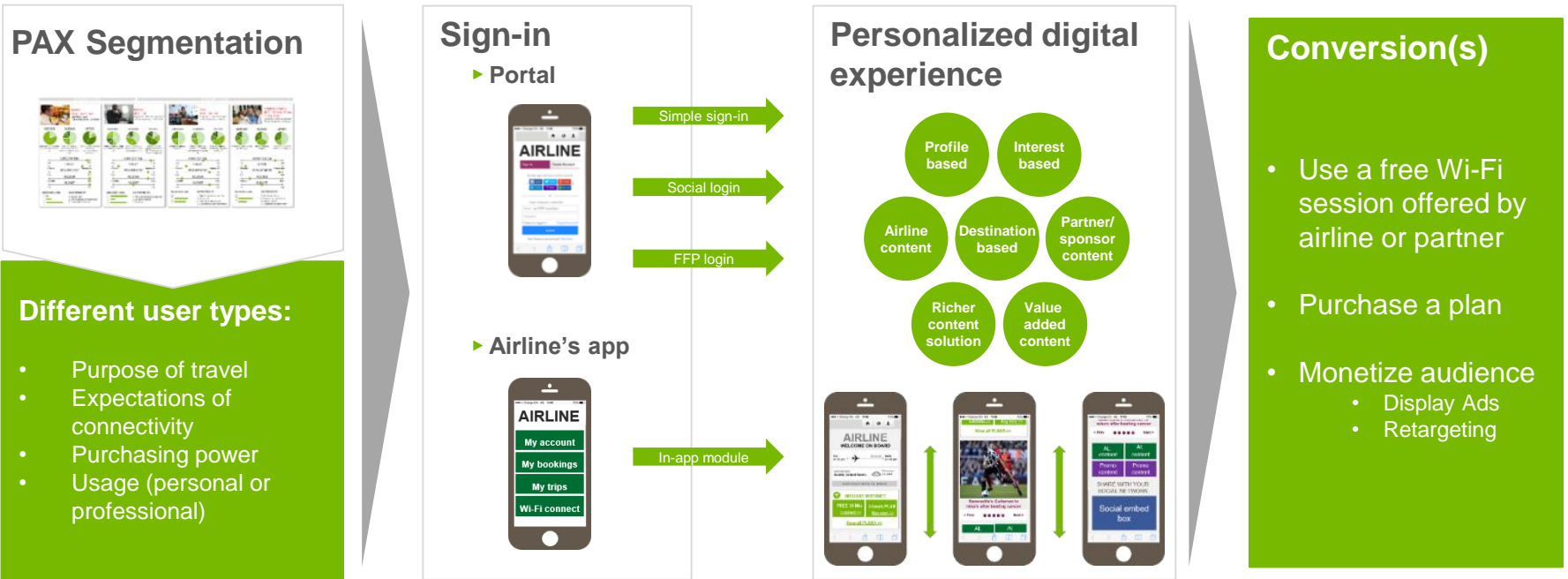
★★★★★  
News



★★★★★  
Travel



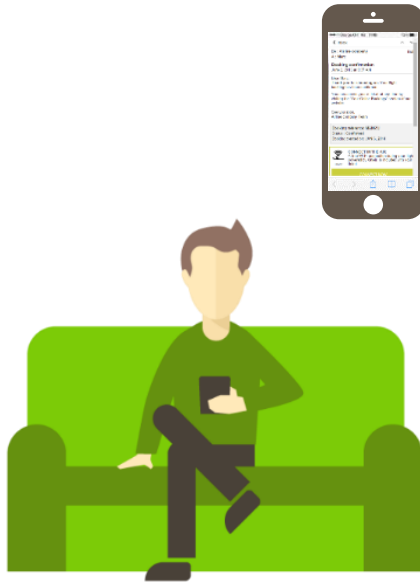
# A new captive portal based on user's profiling...



NB: mock-up only of the portal / Design process on-going

# ...across all touch points to maximize adoption

BEFORE BOARDING



INFLIGHT



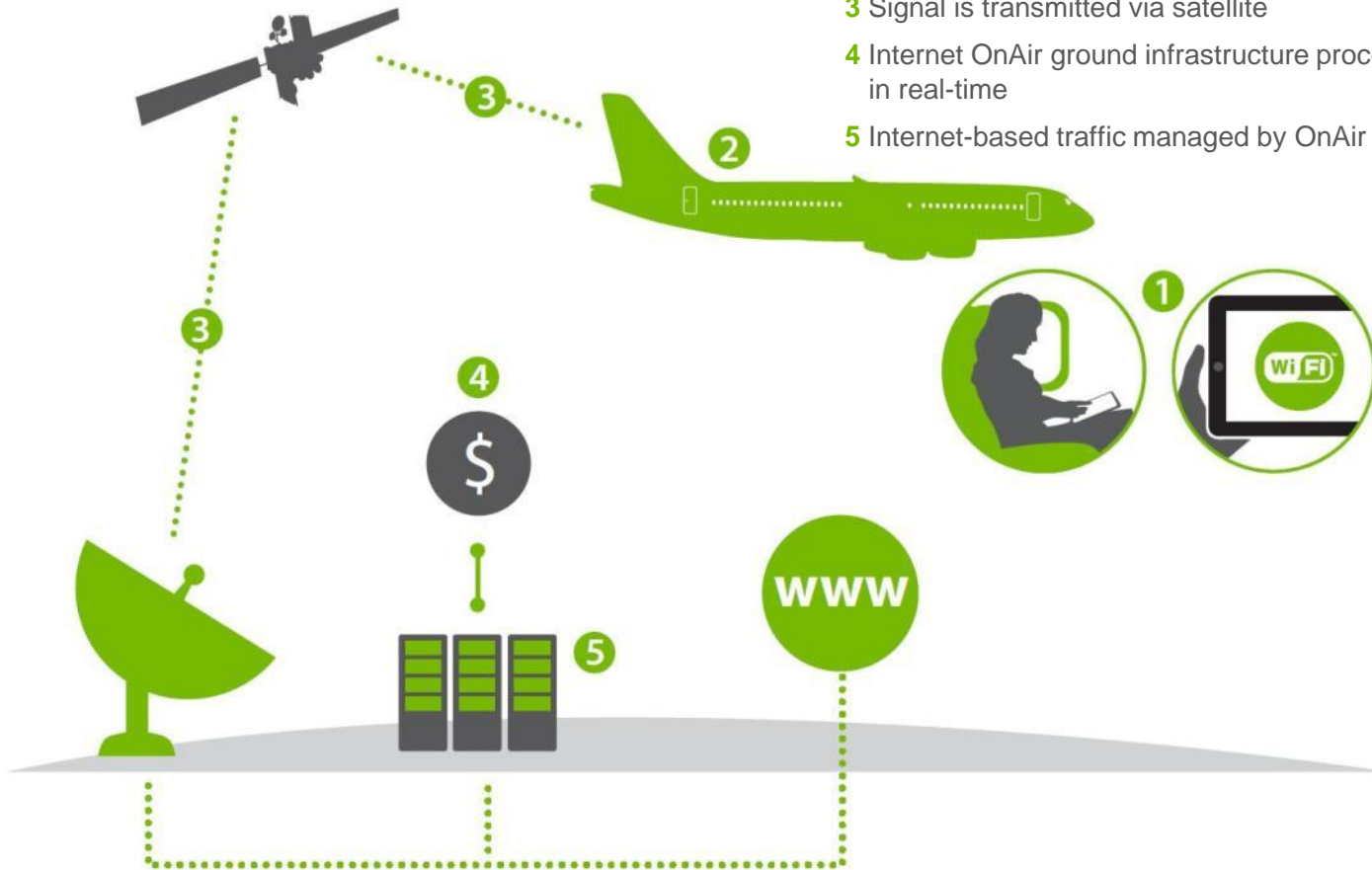
GETTING OFF THE AIRCRAFT



# Simple way to connect to Internet OnAir

## How it works – Internet OnAir

- 1 Passengers connect to the onboard 'Hotspot' via their mobile device such as laptop computers or Wi-Fi enabled smartphones.
- 2 Data request is processed by the onboard connectivity server
- 3 Signal is transmitted via satellite
- 4 Internet OnAir ground infrastructure processes passenger payments in real-time
- 5 Internet-based traffic managed by OnAir ground infrastructure



# Mobile OnAir





# Mobile OnAir: Tweet, Text and Talk in flight



## What is it

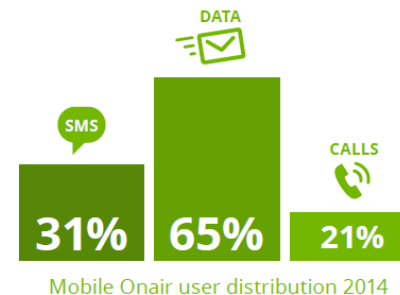
- Mobile OnAir creates a GSM network in the aircraft so that passengers can use their own Mobile Phone / Smartphone as they do on the ground

### Key Benefits:

- Delivers a seamless, global inflight mobile service to passengers
- Largest inflight roaming agreements
- Exclusive mobile data offers launched by Mobile operators

### Features:

- High Quality voice call
- SMS Exchange
- Mobile data
- Welcome SMS



Mobile data is the most popular use of the service

# Offer the best inflight mobile customer experience

OnAir works with mobile operators to deliver best in class service to passengers

- **Simplicity**

Automatic connection to the network and single billing over your mobile service providers

- **Global coverage**

Best inflight GSM coverage with more 375 roaming agreements

- **Affordable pricing**

OnAir has exclusive partnership with mobile operators to offer the best prices to the passengers



**Mobitel**

1717 FOLLOW US [social media icons]

The network with the widest coverage now keeps you connected while you fly

Offering in-flight roaming with seamless Voice, SMS and Data connectivity.

SriLankan	Emirates	BRITISH AIRWAYS	QATAR	Emirates SkyCargo
ETIHAD	INDONESIA AIRWAYS	IBERIA	SAUDIA	EGYPTAIR
QATAR AIRWAYS	Philippine Airlines	ING	LIBYAN	AZERBAIJAN AIRLINES

Data roaming for as low as Rs. 65 per MB

- 20 MB for US \$10 & standard rates will be applicable on additional data usage

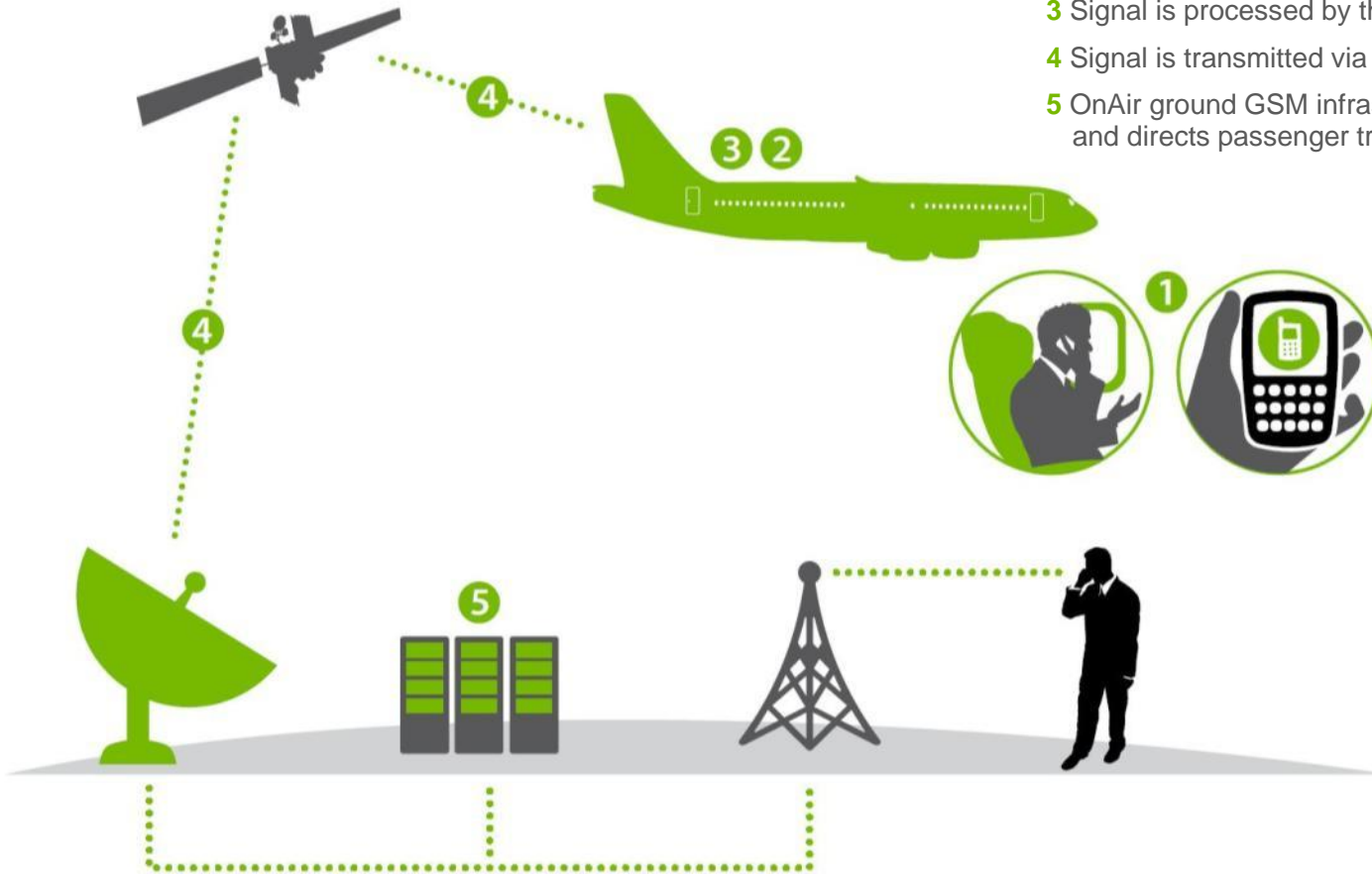
To activate:  
Dial # 999 # → Select option 1 for Activation → Select option 6 for Data Roaming Plan

\*Rates available on specified aircraft only.

# Simple way to connect GSM mobile devices

*How it works – Mobile OnAir*

- 1 Passengers use their mobile phones or BlackBerry-type device just as they do on the ground
- 2 Miniature base station picks up the signal
- 3 Signal is processed by the on-board GSM server
- 4 Signal is transmitted via satellite
- 5 OnAir ground GSM infrastructure processes signal and directs passenger traffic to its destination



# OnAir Play



# OnAir Play: Flight time can be play time



## What is it

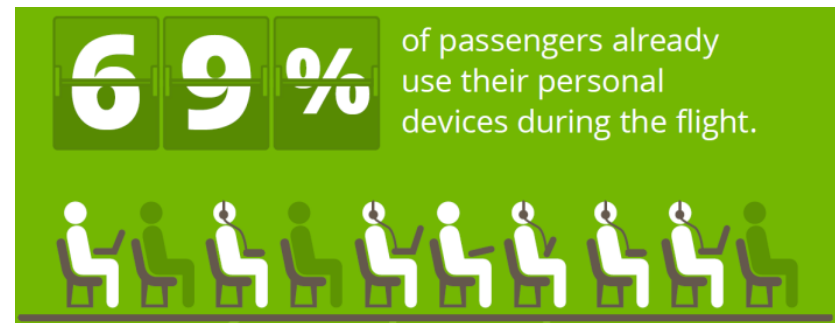
- OnAir Play provides a multimedia file streaming solution in the cabin.
- It delivers relevant content to passengers' devices

## Key Benefits:

- Delivers a personalised entertainment experience to all passengers onboard
- Acts as a replacement to traditional IFE or as an upgrade from old generation IFE
- Works in a connected environment (Internet OnAir)

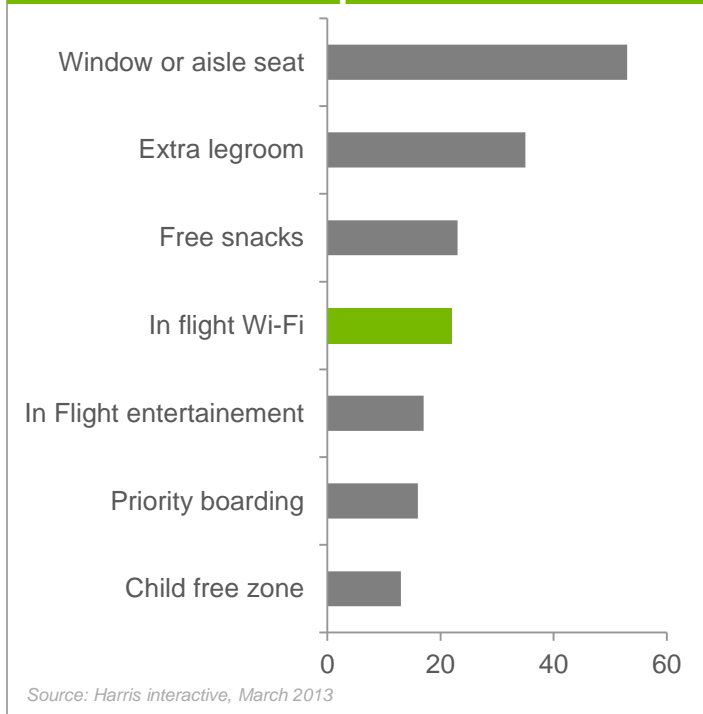
## Features:

- Movies (DRM solution approved by Hollywood studios)
- TV Series
- Music playlist
- e-Magazines
- Game Portal
- Moving Maps

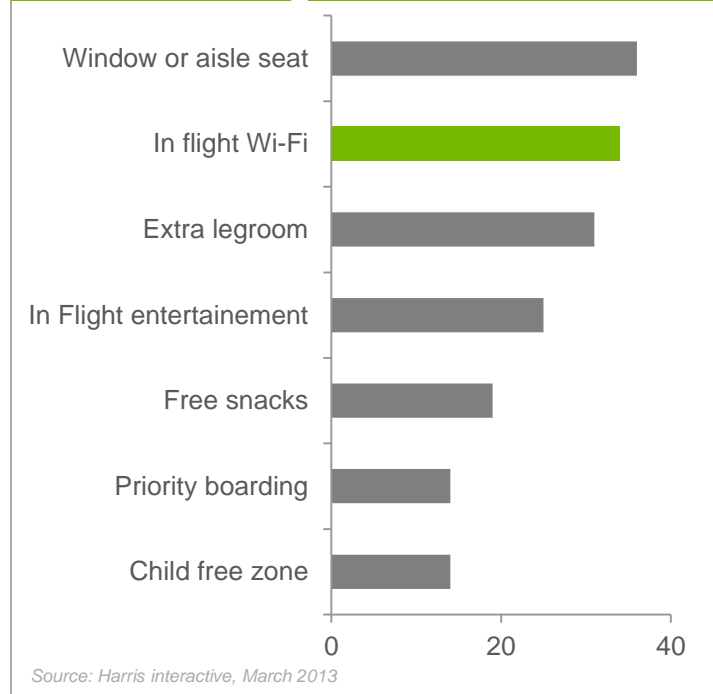


# Wi-Fi access among passengers' favourite activities on board

Favourites amenities when flying – all respondent



Favourites amenities when flying – Younger travellers



- **Wi-Fi access is in the Top 4 favourite amenities**
- **Younger passengers are the most willing to get online**
- **Traditional IFE is an amenity of lower importance to passengers**

# The benefits of a connected Wireless Entertainment

- Passengers are expecting to be connected to Internet when signing to a wireless hotspot
- App required on Mobile devices to stream DRM protected content
- Monitoring the system performance over the air will increase operational efficiency and get rid off typical meet and greet inspection
- Provide to ability to push time sensitive or refreshed content during the flight
- Allow pay per use content possible by validating credit card or social currency online
- Generate ancillary revenues from second screen or shopping on-board
- Make overall business case much more attractive



# Link OnAir

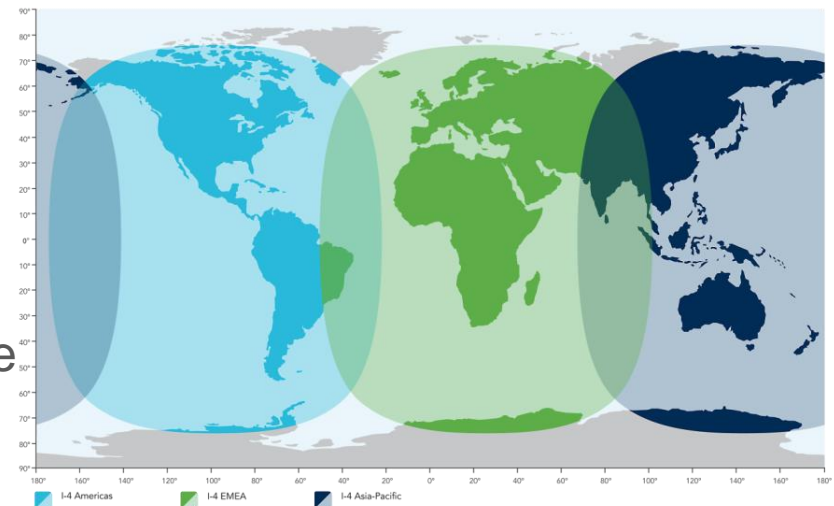




# Today's technology with the global reach

## Global coverage with 3 satellites

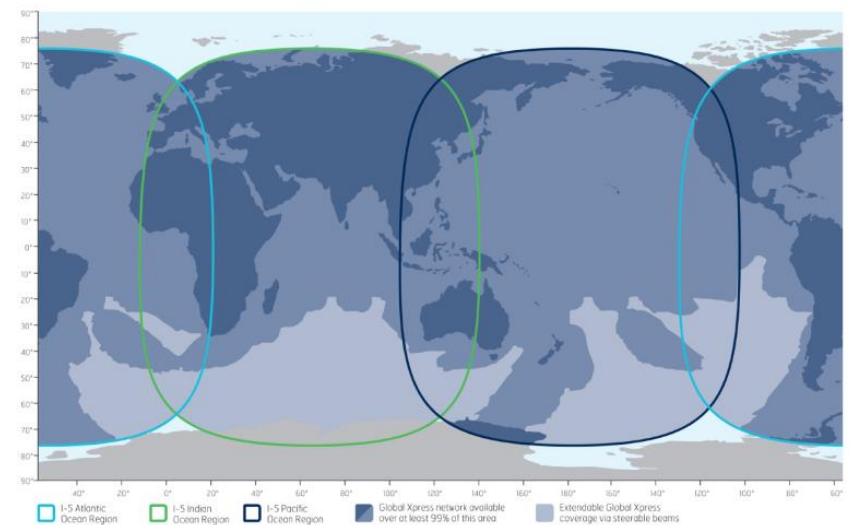
- Inmarsat's SwiftBroadband (SBB) global satellite network results in a global coverage even across oceans
- Experience proves that SBB meets passengers current needs
- SBB pricing packages allow the airlines to offer aggressive and flexible retail plans for passengers
- Upgrade path possible from two to four SBB channels, with Inmarsat's GX Aviation (Ka-band) addressing future passenger demand.



# GX Aviation is the future of Air Transport Connectivity

- Design for mobility
- Seamless global coverage
  - 3 satellites to ensure a global coverage
  - Seamless handover
- Standard terminal design
- Capacity to cope with passengers needs in the future

**Inmarsat-5 coverage**



# In Closing

- **When you connect your passenger information, airlines serve customers better and win big in the process**
- **The airlines in the world making the most ancillary revenue are the ones leading in connected passenger experience**
- **Connect passenger data to the actual passenger increases revenue per flight on average \$9.85 per pax**
- **Increase connectivity, become a PaxEx hero, and increase airline revenue in one fell swoop**
- **Everyone wins**





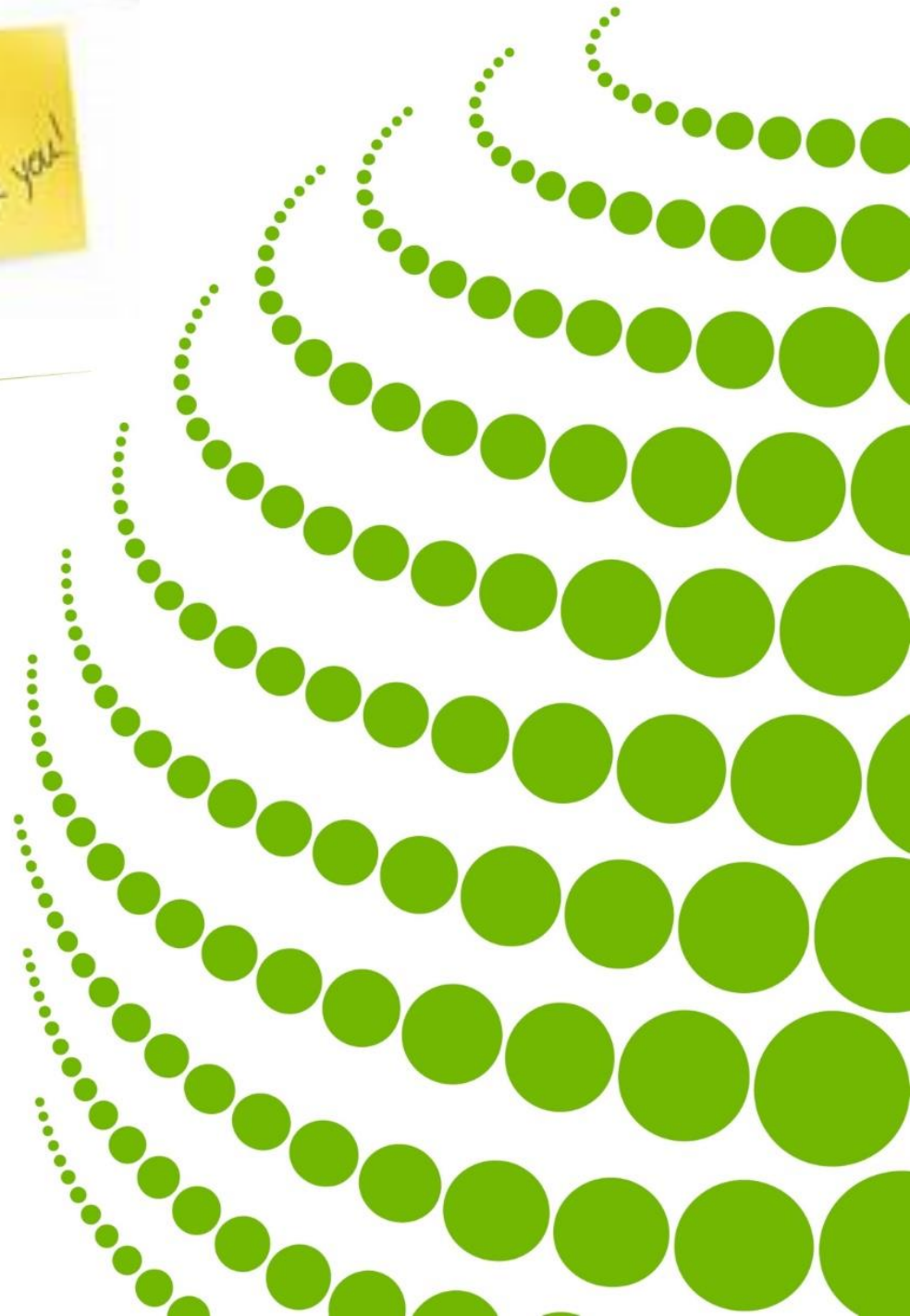
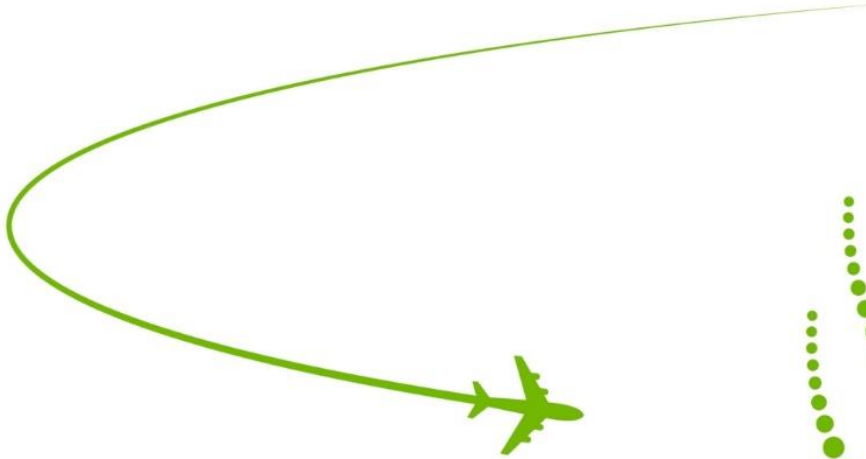
Question



**Giovanni Esposito**  
**Emmanuel Flamant**  
**Daniel Froehly**

**SITA OnAir**

71, av. Louis Casai, PO Box 42  
1216 Cointrin, Geneva, Switzerland



Simply connect to  
[www.sitaonair.aero](http://www.sitaonair.aero)